THE SHERWIN-WILLIAMS COMPANY

ControlTech
Tank Linings, Containment & Corrosion Control Coatings

INDUSTRIAL & MARINE COATINGS

ENVIROLASTIC® AR520 SS

PART A **B81V3500** **ISOCYANATE**
PART B **B81-3500** **SERIES**

PRODUCT INFORMATION

Revised 7/03

PRODUCT DESCRIPTION

ENVIROLASTIC AR520 SS is a 100% solids, slow setting, spray-applied, aromatic polyurea coating system. The slower than typical gel time allows for the introduction of mineral aggregate, colored quartz, or colored acrylic flake to provide a tough, slip-resistant, waterproof, industrial or decorative finish. It can be applied at thicknesses of 30-250 mils or greater in multiple passes during a single application.

- Fast cure, short downtime
- No VOCs and low odor
- Seamless, flexible and waterproof
- Bridges moving cracks to 1/8"
- Impact, tear and abrasion resistant
- Protects against chloride intrusion
- Retains physical properties at -20°F to 250°F

RECOMMENDED USES

Designed for use as an industrial or decorative seamless floor and deck coating system for interior or exterior applications.

Ideally suited for use in various facilities, including:

- Plaza decks, balconies, and walkways
- Parking decks, ramps and stalls
- Stadium walkways, aisles, decks and stairs
- Loading docks and ramps
- Institutional cafeteria, shower, and gymnasium areas
- Bridge decks
- Waterparks and theme parks
- Marine decks, galleys and offshore
- Geotextile linings
- Mechanical equipment rooms
- Below grade waterproofing

PRODUCT CHARACTERISTICS

Finish: Semi-Gloss

Color: White, Light Gray, Medium Gray, Dark Gray, Black, Beige, Tile Red Silver Metallic, Caribbean Green

Volume Solids: 100%

VOC (calculated): 0

Mix Ratio: 1:1

Recommended Spreading Rate per application:
Wet mils: 30.0 - 250.0
Dry mils: 30.0 - 250.0
Coverage: 6 - 53 sq ft/gal approximate

Drying Schedule @ 30.0 mils wet @ 73°F and 50% RH:
To touch: 3 minutes
To recoat:
minimum: 3 minutes
maximum: 16 hours
Gel time: 45 seconds
Tack free: 3 minutes
Light traffic: 2 hours
To cure: 24 hours
If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity, and film thickness dependent.

Pot Life: None

Sweat-in Time: None

Viscosity (mixed): 550 cps

Flash Point: 200°F

Shelf Life: 12 months, unopened at 73°F

Reducer: Not recommended

Clean Up: Butyl Cellusolve™ (R6K25) or Dowanol PM™

PERFORMANCE CHARACTERISTICS

Abrasion Resistance
Method: ASTM D4060
Result: 1000 g 1000 cycles CS-17: 9 mg loss

Adhesion
Method: ASTM D4541
Result: Concrete - 350 psi; Steel - 1,750 psi, Wood 250 psi

Coefficient of Thermal Expansion
Method: ASTM C531 (in/in/°F)
Result: 4×10^{-5}

Crack Bridging (@ -26°C (-15°F) @ 1/8")
Method: ASTM C836
Result: Pass

Durometer Hardness
Method: ASTM D2240
Result: Shore D-50; Shore A-95

Gardner Impact
Method: ASTM D2794 (1/32" steel panels)
Result: >160 in-lbs, direct and indirect

Mandrel Bend
Method: ASTM D522 Conical Bend (1/32" steel panel)
Result: Pass

Tear Strength
Method: ASTM D624
Result: 400 pli

Tensile Elongation
Method: ASTM D638
Result: 520%

Tensile Modulus
Method: ASTM D638
Result: 100% Modulus - 1,000 psi
300% Modulus - 1,600 psi

Tensile Strength
Method: ASTM D638
Result: 2,500 psi

Water Vapor Transmission
Method: ASTM E96
Result: 0.02 perm

continued on back

THE SHERWIN-WILLIAMS COMPANY

INDUSTRIAL & MARINE COATINGS

ControlTech
Tank Linings, Containment & Corrosion Control Coatings

ENVIROLASTIC® AR520 SS

PART A **B81V3500** **ISOCYANATE**
PART B **B81-3500** **SERIES**

PRODUCT INFORMATION

RECOMMENDED SYSTEMS

Steel Deck (pedestrian):
Decorative Broadcast
1 ct. EnviroLastic AR520 SS @ 30.0 - 40.0 mils dft
1 ct Broadcast Aggregate #5900F colored quartz @ 0.5 lbs per sq ft
1-2 cts Sher-Tuff Urethane Clear @ 3.0 - 5.0 mils dft/ct

Steel or Concrete Deck, with primer (pedestrian):
Decorative Broadcast
1 ct. Copoxy Shop Primer @ 1.0 -1.5 mils dft
1 ct. EnviroLastic AR520 SS @ 30.0 - 40.0 mils dft
1 ct Broadcast Aggregate #5900F colored quartz @ 0.5 lbs per sq ft
1-2 cts Sher-Tuff Urethane Clear @ 3.0 - 5.0 mils dft/ct

Concrete, low temperature or fast set (pedestrian):
Decorative Broadcast
1 ct. Corobond LT Epoxy Primer @ 4.0 - 8.0 mils dft
1 ct. EnviroLastic AR520 SS @ 30.0 - 40.0 mils dft
1 ct Broadcast Aggregate #5900F colored quartz @ 0.5 lbs per sq ft
1-2 cts Sher-Tuff Urethane Clear @ 3.0 - 5.0 mils dft/ct

Concrete:
Industrial Broadcast
1 ct. Corobond HS Epoxy Primer @ 3.0 - 4.0 mils dft
1 ct. EnviroLastic AR520 SS @ 30.0 - 40.0 mils dft
1 ct Broadcast Aggregate 40 - 60 mesh sand @ 0.5 lbs per sq ft
1-2 cts Cor-Cote HP Epoxy @ 8.0 - 10.0 mils dft/ct

Concrete (pedestrian deck coating):
1 ct. Corobond HS Epoxy Primer @ 3.0 - 4.0 mils drt
1 ct. EnviroLastic AR520 SS @ 30.0 - 40.0 mils dft
1 ct. Broadcast Aggregate 40 - 60 mesh sand @ 0.2 lbs per sq ft
1 ct. EnviroLastic AR200 HD @ 10.0 - 20.0 mils dft

Concrete (vehicular deck coating):
1 ct. Corobond HS Epoxy Primer @ 3.0 - 4.0 mils dft
1 ct. EnviroLastic AR520 SS @ 40.0 - 50.0 mils dft
1 ct. Broadcast Aggregate 40 - 60 mesh sand @ 0.2 lbs per sq ft
1 ct. EnviroLastic AR200 HD @ 10.0 - 20.0 mils dft

Geo-Textile Lining:
1 ct. Geo-textile non-woven, 3-4oz. Amoco "Petromat"4599
1 ct. EnviroLastic AR520 SS @ 80.0 - 100.0 mils dft*

*When used as a lining in immersion service, a minimum total dry film thickness of 60.0 mils is required.

The systems listed above are representative of the product's use. Other systems may be appropriate.

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:
Steel:
Atmospheric: SSPC-SP10/NACE 2, 2 mil profile
Immersion: SSPC-SP10/NACE 2, 3 mil profile
Concrete & Masonry:
Sandblast or shotblast to remove all laitance and achieve a profile equal to 80-100 grit sandpaper. Refer to SSPC-SP13/NACE 6 or ICRI Guide 03732.

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature:
Material: 150°F minimum, 170°F maximum
Air and surface: -20°F minimum, 120°F maximum
At least 5°F above dew point

Relative humidity: 80% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:
Part A: 53 gallon drums
Part B: 53 gallon drums

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

THE SHERWIN-WILLIAMS COMPANY

ControlTech
Tank Linings, Containment & Corrosion Control Coatings

INDUSTRIAL & MARINE COATINGS

ENVIROLASTIC® AR520 SS

PART A **B81V3500** **ISOCYANATE**
PART B **B81-3500** **SERIES**

APPLICATION BULLETIN

Revised 7/03

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Iron & Steel (immersion service)

Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Near White Metal Blast Cleaning per SSPC-SP10. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (3 mils). Remove all weld spatter and round all sharp edges by grinding to a minimum 1/4" radius. Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

Iron & Steel (atmospheric service)

Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Near White Metal Blast Cleaning per SSPC-SP10. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils).Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

Poured Concrete

New

For surface preparation, refer to SSPC-SP13/NACE 6. Surface must be clean, dry, sound, and offer sufficient profile to achieve adequate adhesion. Minimum substrate cure is 28 days at 73°F. Remove all form release agents, curing compounds, salts, efflorescence, laitance, and other foreign matter by sandblasting, shotblasting, mechanical scarification, or suitable chemical means. Refer to ASTM D4260. Rinse thoroughly to achieve a final pH between 10.0 and 13.0. Allow to dry thoroughly prior to coating.

Old

Surface preparation is done in much the same manner as new concrete; however, if the concrete is contaminated with oils, grease, chemicals, etc., they must be removed by cleaning with a strong detergent. Refer to ASTM D4258. Form release agents, hardeners, etc. must be removed by sandblasting, shotblasting, mechanical scarification, or suitable chemical means. If surface deterioration presents an unacceptably rough surface, Steel-Seam VSE epoxy filler is recommended to patch and resurface damaged concrete.

Fill all cracks, voids and bugholes with Steel-Seam VSE.

Always follow the ASTM methods listed below:

ASTM D4258 Standard Practice for Cleaning Concrete.
ASTM D4259 Standard Practice for Abrading Concrete.
ASTM D4260 Standard Practice for Etching Concrete.
ASTM F 1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete

APPLICATION CONDITIONS

Temperature:	
Material:	150°F minimum, 170°F maximum
Air and surface:	-20°F minimum, 120°F maximum
	At least 5°F above dew point
Relative humidity:	80% maximum

APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compatible with the existing environmental and application conditions.

Reducer ..... Not recommended

Clean-up ..... Butyl Cellusolve™ (R6K25) or Dowanol PM™

Plural Component Heated Spray Equipment:

Equipment ..... Gusmer H-20/35
Gun ..... GX7 DI,GX7-400, or GX-8
Fluid Pressure ..... 2,200 psi
Air Pressure ..... 100 psi
Inlet Strainer Screen .... 30 mesh
Gun Screen ..... 80 mesh

If specific application equipment is listed above, equivalent equipment may be substituted.

continued on back

THE SHERWIN-WILLIAMS COMPANY

COVER THE EARTH

INDUSTRIAL & MARINE COATINGS

ControlTech
Tank Linings, Containment & Corrosion Control Coatings

ENVIROLASTIC® AR520 SS

PART A **B81V3500** **ISOCYANATE**
PART B **B81-3500** **SERIES**

APPLICATION BULLETIN

APPLICATION PROCEDURES

Surface preparation must be completed as indicated. Route and seal all cracks greater than 1/16" with EnviroLastic JS80 SL.

Mixing Instructions:
Agitate resin blend (B) component thoroughly with a drum mixer before use to disperse pigment and assure homogeneity. Do not thin. Do not mix "A" and "B" resins together. **Caution: Do not agitate in air and moisture.**

Apply coating at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per application:

Wet mils:	30.0 - 250.0
Dry mils:	30.0 - 250.0
Coverage:	6 - 53 sq ft/gal approximate

Drying Schedule @ 30.0 mils wet @ 73°F and 50% RH:

To touch:	3 minutes
To recoat:	
minimum:	1 minute
maximum:	16 hours
Gel time:	45 seconds
Tack free:	3 minutes
Light traffic:	2 hours
To cure:	24 hours

If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity, and film thickness dependent.

Pot Life: None

Sweat-in Time: None

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

PERFORMANCE TIPS

For concrete, always perform Calcium Chloride test as per ASTM F1869. Do not proceed with MVE >3 lbs.

For steel, stripe coat all chine, welds, bolted connections, and sharp angles to prevent early failure in these areas. For concrete, all cracks must receive a 6" wide by 30 mil dft detail coat.

Use only heated, plural component equipment capable of producting 2,500 psi at 160°F and 2 gallon/minute output consistently.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Butyl Cellusolve™ (R6K25), Dowanol PM™, or Propylene Glycol.

While spraying, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

Do not agitate in air and moisture.

Consult your Sherwin-Williams representative for specific application and performance recommendations.

Refer to Product Information sheet for additional performance characteristics and properties.

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with Butyl Cellusolve™ (R6K25) or Dowanol PM™. Clean tools and equipment immediately after use (including both "A" and"B" sides of plural component spray system) with Butyl Cellusolve™ (R6K25) or Dowanol PM™.

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.